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Format No: CP/TF/01

TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID : CP-2020-01-07-24 **Date: 18-11-19**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 15-11-19

Sample Type : Birla Super 53grade

Reference to BIS codes : IS 12269 2013, 53 Grade Ordinary Portland cement Specification ,
IS 4031 (Part 1,2 3,4,5, 6,11):1988
IS 4031 Part 1 DETERMINATION OF FINENESS BY DRY SIEVING, Clause 4.4
IS 4031 Part 2, Determination of Fineness by Blaine Air Permeability Method, Clause 5
IS 4031 Part 3, Determination of Soundness, Clause 5,Clause 6
IS 4031 Part 4, Determination of Consistency of Standard Cement Paste, Clause 5
IS 4031 Part 5, Determination of Initial & Final Setting Time, Clause 5
IS 4031 Part 11,DETERMINATION OF DENSITY , Clause 6

Date of test : 16-11-19

Environmental Conditions during test : Temperature: 26°C
Humidity: 72%

SLNo.	Physical properties	Results	Requirement as per IS 12269: 2013
1	Fineness by dry sieving (%)	2.05	–
2	Finess by Air permeablity method (m^2/kg,Min)	298.6	225m^2/kg, Min
3	Density (gm/cc)	3.13	–
4	Standard Consistency (%)	28.5%	Not specified
5	Initial Setting time	135 minutes	Not less than 30 minutes
6	Final Setting time	255 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL

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TEST REPORT ON COARSE AGGREGATES

Lab ID : CP-2020-01-07-24 **Date: 18-11-19**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 15-11-19

Sample Type/ Size : 20mm down size coarse aggregate

Reference to BIS codes : IS: 383:2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1,3,4) RA2011
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption
IS 2386 Part 4: Mechanical Properties

Date of test : 15-11-19

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 20MM DOWN COARSE AGGREGATE:

Total weight taken : 5000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	40 mm	0	0	0	100	100
2	20 mm	318	318	6.4	93.6	90-100
3	10 mm	2852	3170	63.4	36.6	25-55
4	4.75 mm	1622	4792	95.8	4.2	0-10
5	Pan	208	5000	100	0	–

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TEST REPORT OF FINE AGGREGATE

Lab ID : CP-2020-01-07-24 **Date: 18-11-19**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 15-11-19

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 15-11-19

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	57	57	5.7	94.3	90-100	90-100	90-100	95-100
3	2.36 mm	129	186	18.6	81.4	60-95	75-100	85-100	95-100
4	1.18 mm	219	405	40.5	59.5	30-70	55-90	75-100	90-100
5	600 micron	203	608	60.8	39.2	15-34	35-59	60-79	80-100
6	300 micron	179	787	78.7	21.3	5-20	8-30	12-40	15-50
7	150 micron	149	936	93.6	6.4	0-10	0-10	0-10	0-15
8	Pan	64	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST RESULTS OF STEEL

Lab ID : **CP-2020-01-07-24** **Date: 20-11-19**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 19-11-19

Sample Type : Sunvik

Reference to BIS codes : IS 1786-2008, IS:1608-2005(RA 2011), IS 1599-2012.

Date of test: : 19-11-19

Sl.No	Identification of sample	Grade of the sample	Diameter of the steel bar	Weight of the sample	Yield stress	Tensile strength	Elongation	Bend test	Rebend test
			(mm)	(kg/m)	(N/mm2)	(N/mm2)	(%)		
1	Sunvik	Fe500	10	0.616	528	672	20.0%	Satisfactory	Satisfactory
2	Sunvik	Fe500	12	0.888	544	668	20.0%	Satisfactory	Satisfactory

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-01-07-24**

Date: 28/11/2019

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 23-11-19

Customer ID : Drain Bottom Slab Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	149.43 X 150.32 X 149.38	22463	8.820	422.4	18.8	18.6
2	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	151.90 X 151.68 X 149.54	23040	8.880	424.2	18.4	
3	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	150.55 X 150.69 X 150.76	22686	8.275	425.0	18.7	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24

Date: 28/11/2019

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 23-11-19

Customer ID : Drain Bottom Slab Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	150.80 X 151.36 X 149.58	22824	8.820	428.5	18.8	18.8
2	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	150.43 X 151.14 X 151.05	22737	8.880	428.4	18.8	
3	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	150.52 X 151.92 X 150.86	22866	8.275	427.8	18.7	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 19/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 23-11-19

Customer ID : Drain Bottom Slab Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 19/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Slab Concrete	M20	21/11/2019	19/12/2019	151.07 X 150.50 X 149.01	22736	8.995	540.4	23.8	23.2
2	Drain Bottom Slab Concrete	M20	21/11/2019	19/12/2019	150.40 X 150.18 X 149.37	22587	8.681	511.5	22.6	
3	Drain Bottom Slab Concrete	M20	21/11/2019	19/12/2019	150.74 X 149.38 X 150.82	22519	8.677	523.8	23.3	

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TEST REPORT OF CEMENT CONCRETE CUBES

Format No: CP/TF/01

Lab ID : CP-2020-01-07-24

Date: 28/11/2019

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 23-11-19

Customer ID : Drain Bottom Slab Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	151.74 X 149.64 X 149.67	22707	8.820	420.5	18.5	18.6
2	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	151.66 X 151.36 X 150.55	22954	8.880	430.5	18.8	
3	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	150.18 X 149.94 X 151.44	22517	8.275	414.3	18.4	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 28/11/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 23-11-19

Customer ID : Drain Bottom Slab Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 28/11/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	150.47 X 149.14 X 150.16	22442	8.820	413.0	18.4	18.5
2	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	150.34 X 151.48 X 149.11	22774	8.880	420.6	18.5	
3	Drain Bottom Slab Concrete	M20	21/11/2019	28/11/2019	149.90 X 151.17 X 150.59	22660	8.275	423.7	18.7	

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Certificate No.: TC-5548

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 11/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 06-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	151.98 X 151.32 X 150.34	22998	8.210	587.3	25.5	25.6
2	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	151.49 X 149.22 X 150.23	22605	8.058	596.3	26.4	
3	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	150.51 X 150.48 X 150.82	22650	8.090	560.6	24.8	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 12/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 07-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	149.93 X 150.38 X 150.17	22547	8.210	569.1	25.2	25.5
2	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	151.41 X 150.57 X 149.32	22797	8.058	598.3	26.2	
3	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	150.82 X 150.91 X 150.93	22761	8.090	567.3	24.9	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 12/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 07-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	150.91 X 151.85 X 149.13	22916	8.210	577.6	25.2	25.1
2	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	151.25 X 149.53 X 151.01	22616	8.058	588.4	26.0	
3	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	151.77 X 151.88 X 151.64	23051	8.090	558.1	24.2	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-01-07-24** **Date: 12/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 07-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	151.51 X 150.41 X 151.43	22789	8.210	577.7	25.3	25.4
2	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	150.60 X 150.26 X 151.51	22629	8.058	600.3	26.5	
3	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	149.86 X 150.31 X 151.55	22525	8.090	548.2	24.3	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 11/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 06-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	150.64 X 151.48 X 149.91	22820	8.210	578.1	25.3	25.6
2	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	149.23 X 150.13 X 150.17	22404	8.058	601.1	26.8	
3	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	151.40 X 151.19 X 151.77	22890	8.090	560.6	24.5	

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-01-07-24** **Date: 12/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 07-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	150.88 X 151.23 X 151.63	22817	8.210	573.4	25.1	25.6
2	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	151.24 X 151.66 X 151.70	22938	8.058	612.1	26.7	
3	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	150.96 X 149.60 X 150.65	22584	8.090	562.8	24.9	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 12/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 07-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 12/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	149.77 X 150.69 X 149.68	22569	8.210	576.7	25.6	25.5
2	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	150.03 X 150.12 X 150.63	22521	8.058	607.6	27.0	
3	Cement Concrete Pavement	M30	05/12/2019	12/12/2019	151.24 X 150.03 X 151.49	22691	8.090	546.9	24.1	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 11/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 06-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	150.96 X 151.15 X 150.26	22817	8.210	587.1	25.7	25.8
2	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	149.70 X 149.71 X 149.27	22412	8.058	599.7	26.8	
3	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	151.27 X 151.64 X 151.57	22938	8.090	570.6	24.9	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2020-01-07-24** **Date: 11/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 06-12-19

Customer ID : Cement Concrete Pavement

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 11/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	151.68 X 149.27 X 151.47	22641	8.210	584.2	25.8	25.4
2	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	150.80 X 150.59 X 149.24	22708	8.058	591.5	26.0	
3	Cement Concrete Pavement	M30	04/12/2019	11/12/2019	150.55 X 150.54 X 149.74	22664	8.090	550.4	24.3	

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2020-01-07-24 **Date: 02/12/2019**

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 27-11-19

Customer ID : Drain Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	149.43 X 150.56 X 150.47	22498	8.820	414.6	18.4	18.4
2	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	149.90 X 150.39 X 149.07	22543	8.880	421.3	18.7	
3	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	150.89 X 151.65 X 150.69	22883	8.275	412.5	18.0	

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 02/12/2019

Lab ID	:	CP-2020-01-07-24
Project Name	:	Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division
Agency	:	M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010
Customer's Reference	:	BBMP/EE/YNK.D/W.O/161/2019-20
Date of Receipt	:	27-11-19
Customer ID	:	Drain Side Wall Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	02/12/2019

SL No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	151.83 X 150.70 X 151.75	22881	8.820	419.7	18.3	18.7
2	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	151.90 X 151.45 X 151.67	23007	8.880	431.2	18.7	
3	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	151.06 X 149.38 X 149.18	22565	8.275	428.6	19.0	

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 02/12/2019

Lab ID : CP-2020-01-07-24

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 27-11-19

Customer ID : Drain Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl 5

Date of test : 02/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	151.32 X 149.42 X 150.76	22610	8.820	411.9	18.2	18.4
2	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	151.09 X 150.64 X 151.15	22760	8.880	416.0	18.3	
3	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	150.61 X 149.62 X 150.21	22534	8.275	420.9	18.7	

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 02/12/2019

Lab ID : CP-2020-01-07-24

Project Name : Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer's Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 27-11-19

Customer ID : Drain Side Wall Concrete

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M20 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5

Date of test : 02/12/2019

SL No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	149.00 X 149.34 X 151.09	22252	8.820	403.3	18.1	18.2
2	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	150.54 X 152.00 X 151.02	22882	8.880	413.8	18.1	
3	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	149.51 X 150.04 X 150.49	22433	8.275	413.3	18.4	

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 02/12/2019

Lab ID	:	**CP-2020-01-07-24**
Project Name	:	Improvements to Roads and Drains at AK Colony and Surrounding Areas in Ward No. 01 of Yelahanka Sub Division
Agency	:	M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010
Customer's Reference	:	BBMP/EE/YNK.D/W.O/161/2019-20
Date of Receipt	:	27-11-19
Customer ID	:	Drain Side Wall Concrete
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M20 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 Methods of Tests for Strength of Concrete Cl.5
Date of test	:	02/12/2019

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	149.62 X 150.75 X 149.42	22555	8.820	424.6	18.8	18.7
2	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	151.64 X 150.97 X 151.23	22893	8.880	422.1	18.4	
3	Drain Side Wall Concrete	M20	25/11/2019	02/12/2019	150.65 X 150.68 X 149.95	22700	8.275	426.2	18.8	

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TEST RESULTS OF GRADATION FOR GSB
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID : CP-RW-2020-01-07-24 **Date: 12-12-19**

Project Name : Improvements to roads and drains at AK Colony and surrounding areas in Ward No. 01 of Yelahanka Sub division

Agency : M/s. Technical Manager (West) KRIDL, Bangaluru, 5th Block 17th Main Shivakumar Swamy Building, Bhashyam Circle Banglaore:560010

Customer Reference : BBMP/EE/YNK.D/W.O/161/2019-20

Date of Receipt : 10-12-19

Type of Mix : GSB (Granular Sub Base)

Date of test : 10-12-19

Oven Dry Weight : 10000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec. Limit Vide Table 400.1 MORTH Specification
75	0	0	0	100	100
53	996	996	9.96	90.04	80-100
26.5	1680	2676	26.76	73.24	55-90
9.5	1294	3970	39.70	60.30	35-65
4.75	1495	5465	54.65	45.35	25-55
2.36	1766	7231	72.31	27.69	20-40
0.425	1668	8899	88.99	11.01	10-25
0.075	1101	10000	100.00	0.00	0-5

TESTS ON FILLER SCREEN MATERIALS

Sl no	Particulars	Test results	Spec.Limit Vide Table
1	Liquid Limit, %	21.33%	Maximum 25
2	Plasticity index, %	Non plastic	Maximum 6

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